

OIL ANALYSIS REPORT

Sample Rating Trend





Area MINING Machine Id ME-81 KOMATSU D155AX-8 100135

Diesel Engine

SHELL RIMULA SUPER SAE 15W40 (9 GAL)

SAMPLE INFORM Sample Number Sample Date Machine Age	ATION			Oct2023		
Sample Date		method	limit/base	current	history1	history2
		Client Info		WC0864718		
Machine Age		Client Info		30 Oct 2023		
	hrs	Client Info		5246		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	28		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	2		
_ead	ppm	ASTM D5185m	>40	_ 16		
Copper	ppm	ASTM D5185m	>330	2		
Tin	ppm	ASTM D5185m	>15	- <1		
Vanadium	ppm	ASTM D5185m	210	0		
Cadmium	ppm	ASTM D5185m		۰ <1		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		3		
Barium	ppm	ASTM D5185m		5		
Volybdenum	ppm	ASTM D5185m		82		
Vanganese	ppm	ASTM D5185m		<1		
Vagnesium	ppm	ASTM D5185m		1141		
Calcium	ppm	ASTM D5185m	2840	1478		
	ppm	ASTM D5185m	1150	1348		
Phosphorus	pp					
	nnm	ASTM D5185m	1270	1567		
Zinc	ppm ppm	ASTM D5185m ASTM D5185m	1270 2829	1567 3619		
Zinc						
Zinc Sulfur CONTAMINANTS		ASTM D5185m method	2829	3619		
Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm	ASTM D5185m method ASTM D5185m	2829 limit/base	3619 current 5	 history1	 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m method	2829 limit/base	3619 current	 history1	 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2829 limit/base >25	3619 current 5 6	 history1 	 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	2829 limit/base >25 >20	3619 current 5 6 2	 history1 	 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	2829 limit/base >25 >20 limit/base	3619 current 5 6 2 current 1.1	 history1 history1	 history2 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method	2829 limit/base >25 >20 limit/base >3	3619 current 5 6 2 current	 history1 history1 	history2 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	2829 imit/base >25 >20 imit/base >3 >20	3619 current 5 6 2 current 1.1 11.0	 history1 history1 	history2 history2
Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	2829 imit/base >25 >20 imit/base >3 >20 >30	3619 current 5 6 2 current 1.1 11.0 23.6	 history1 history1 	 history2 history2

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

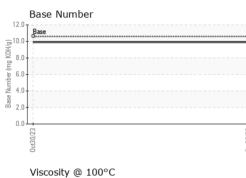
Fluid Condition

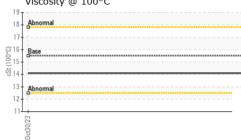
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.



OIL ANALYSIS REPORT

VISUAL





			methoa	limit/base		nistory i	
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal		*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
)/23	Appearance	scalar	*Visual	NORML	NORML		
0ct30/23	Odor		*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water		*Visual	20.2	NEG		
	FLUID PROPERT	IES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.5	14.1		
	GRAPHS						
	Ferrous Alloys						
	iron						
	25 - nickel						
	20						
	톱 15-						
	10-						
	5						
	0ct30/23			0ct30/23			
	Oct			Oct			
	Non-ferrous Metal	s					
	16 copper 1						
	14 - excesses lead						
	12 -						
	10- E - 1						
	튭 8-						
	6						
	2						
	0						
	0						
	0ct30/23			0ct30/23			
	0			0ct30/23 +	Base Number		
	Viscosity @ 100°C			EZ000000	Base Number		
	Uiscosity @ 100°C			EZO02000	L.		
	Viscosity @ 100°C			EZO02000	L.		
	Viscosity @ 100°C			EZO02000	L.		
	Viscosity @ 100°C			EZO02000	L.		
	Viscosity @ 100°C			EZO02000	L.		
	Viscosity @ 100°C			12.0- 10.0-1	L.		
	Viscosity @ 100°C			12.0- 10.0- (0)HOX 000 10.0- HOX 000 10.0- HOX 000 10.0- 10.	L.		
	Viscosity @ 100°C			12.0- 10.0- (0)HOX Buy have fund to the fund to fund t	Base		
	Viscosity @ 100°C			12.0- 10.0- (0)HOX 00 4.0- 4.0- 2.0-	L.		
	Viscosity @ 100°C			12.0- 10.0- (б)АНСКУ веши и состания веши и состания веши и состания веши и состания веши и состания веши и состания веши и состания вели и состания и состани состания и состани состания и состания и состания и состани	Base EZ/0EP0		
Laboratory	Viscosity @ 100°C	501 Madis	on Ave., Ca	12.0- 10	Base EZ/0EP0		
Laboratory Sample No.	Viscosity @ 100°C	501 Madis Received	on Ave., Ca	12.0- 10	Base EZ/0EP0		MAIN STRE
Laboratory Sample No. Lab Number	Viscosity @ 100°C	501 Madis Received Diagnose	on Ave., Ca 07 f ed : 08 f	12.0- 10	Base EZ/0EP0		OVIA - GUIC MAIN STREE GUION, A US 725
Laboratory Sample No.	Viscosity @ 100°C	501 Madis Received Diagnose	on Ave., Ca : 07 f ed : 08 f ician : Sea	12.0- 10	Base EZ/0EP0		MAIN STREE GUION, A US 725

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: